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ABSTRACT

A survey conducted by the State Department of Education to determine the status of envrionmental education in North Carolina is summarized in this report. Questionnaires were sent to all local superintendents and deans of education schools in the state requesting information about program objectives, program descriptions, evaluation procedures, and coordination personnel. From replies it was determined about 43 percent of the Local Education Agencies are involved in some type of environmental program, ranging from a one-exposure situation to a comprehensive, multi-grade level approach. At the college and university level, 17 percent reported environmental education courses offered, although these courses were not specifically designed to prepare prospective teachers. Descriptions of selected programs in city school units and county school units are given together with a list of city, county, university, and special programs which appear to have promise for the future. The appendix includes sample letters, questionnaires, and abstracts from five Title III ESEA projects. This report was prepared to serve as a guide for further implementation of the "Environmental Education Planning Project" funded under Title V, ESEA. (BL)

ED 066307

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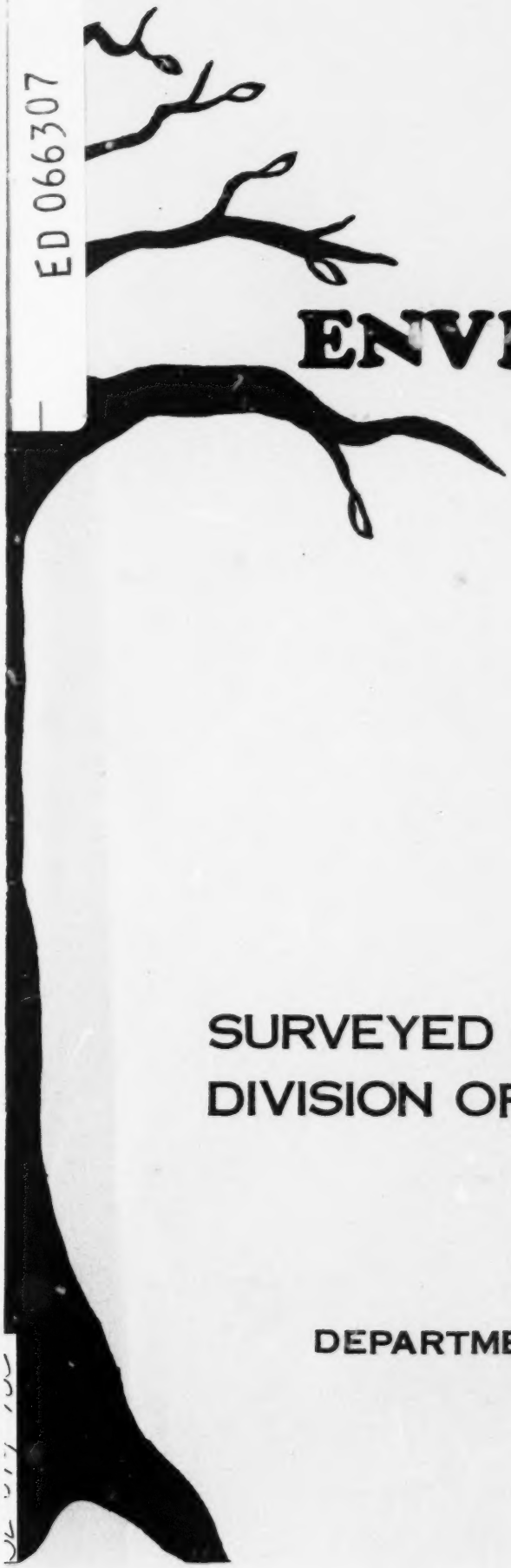

STATUS REPORT ON
ENVIRONMENTAL EDUCATION PROGRAMS
IN NORTH CAROLINA

SURVEYED BY
DIVISION OF SCIENCE EDUCATION
AUGUST 1971

DEPARTMENT OF EDUCATION · RALEIGH

STATUS REPORT ON ENVIRONMENTAL EDUCATION PROGRAMS IN THE STATE OF NORTH CAROLINA

INTRODUCTION

Prior to the formulation of the State Master Plan, this survey was conducted to determine the status of environmental education in North Carolina. This survey was initiated in August 1971.

A questionnaire was mailed to each local superintendent in North Carolina requesting information on any environmental education programs in his district. Information concerning program objectives, description of programs, and evaluation procedures was requested. Each superintendent was also requested to designate a contact person in his district, who would have the responsibility for coordinating environmental education within that district. A questionnaire was also sent to all deans of schools of education in North Carolina requesting identification of programs in environmental education or courses on environmental problems in existence in their institutions.

The findings of the survey revealed that approximately 65 of the existing 152 Local Education Agencies are involved in some type of environmental program. The scope and extent of these programs vary considerably among the school districts. Some programs are of an isolated type, a one-exposure approach, and usually are terminal. Others are of longer duration and incorporate many grade levels which use school sites, parks, local fields and woodlands, solid and liquid disposal plants, town meetings, newspaper stories, and other community resources in their environmental education studies.

Seven projects in environmental education have been funded in North Carolina under Title III of the Elementary and Secondary Education Act since its inception in 1965. Some of these projects are no longer funded through Title III and the project period for some has expired. At present there are only four Title III projects being funded in North Carolina that are directly related to environmental education. These are sponsored by Burke County, Madison County, Carteret County, and Washington City. It is worth noting that the Carteret County and the Salisbury projects, two of the original Title III projects, have had national publicity and prestige during the last three years.

Seven of the 42 colleges and universities who were asked to respond to the questionnaire reported that environmental education courses were offered.

However, in all but a few cases, there were no courses specifically designed to prepare prospective teachers.

Environmental education programs may exist which were not reported for one reason or another and many courses in science, biology, and social studies may be environmentally-oriented, but were not reported on. This survey has been strictly of a quantitative nature and no attempt was made to evaluate the quality or effectiveness of these programs.

Additional efforts have been made as a result of a bill that was passed by the 1969 General Assembly which directed the State Board of Education to conduct a study to determine the feasibility of including the study of the environment and natural resources in the curricula of the public schools in North Carolina. The responsibility for conducting such a study was delegated to the Division of Science Education within the Department of Public Instruction.

A task force composed of persons from universities, industry, public school systems, and laymen was selected and organized into working committees (curriculum, teacher education, position papers, and efforts of other agencies) to do the study. The recommendations of these committees and the curriculum publication, Teachers Guide For Environmental Education, have been instrumental in helping initiate environmental education programs in North Carolina.

It is worth noting that the 1971 legislature passed a bill which called for the establishment of a position for an environmental education specialist within the State Department of Public Instruction. The legislature did not, however, appropriate funds for such a position.

PURPOSE

To prepare a summary of environmental education programs presently under way or planned for the future, to be used as a guide for further implementation of the "Environmental Education Planning Project," funded under Title V of the Elementary and Secondary Education Act.

PROCEDURE

A letter with an attached questionnaire was sent to deans and chairmen of Departments of Education (Appendix I) and to Local Education Agency superintendents (Appendix II) to obtain the information upon which to base this report.

RESPONSE

	Canvassed	Responded
Colleges and Universities	42	25
City School Units	52	30
County School Units	100	69
Military Base Units	2	2

COLLEGES AND UNIVERSITIES

Although this project is concerned with elementary and secondary education, it is necessary to have teachers trained at the college and university level. Close cooperation and coordination between institutions of higher education and the Department of Public Instruction is imperative if environmental education for all is going to be accomplished. Therefore, this questionnaire was sent to colleges and universities to determine the type of support the elementary and secondary schools now have available and can hope to have in the future to assist in environmental education in North Carolina.

Of the 25 colleges and universities that responded, only seven indicated that they have a program for prospective teachers in environmental education; however, two had such programs in the planning stage and seven had core courses offered in the environmental field, mainly in biology, geography, or health areas.

The following colleges and universities indicated programs in effect or planned and/or specific interest in what others have done in this area: Elon, Campbell, Pfeiffer, Pembroke, Belmont Abbey, Salem, Lenoir Rhyne, Methodist (Appendix III), High Point, and UNC-Greensboro.

CITY SCHOOL UNITS

Of the 30 city school systems that responded, 14 indicated they had specific environmental education programs and 16 did not. However, some of these 16 did have the general approach to environmental education in courses

such as science, health, and social studies where environmental education is stressed.

Fayetteville--Environmental education program appears to be well organized. The description extracted from the questionnaire is as follows:

"The environmental education program in our school system is an integral part of the whole science program. The general objectives of science teaching as expressed in the science curriculum guide for our system include: (1) 'To learn to use wisely and effectively the natural resources of our earth as well as the products of science and technology through instruction on conservation using a variety of techniques and media.' Each teacher in presentation of his/her area of subject matter includes material on environmental education. Most all the textbooks treat this area quite extensively. Other aspects are correlated with the text wherever and whenever they are meaningful. The Teachers Guide For Environmental Education, which was produced by the Task Force on Environment and Natural Resources in cooperation with the State Department of Public Instruction, (with the support of the Honorable Norwood E. Bryan, Jr.) is being reproduced (spirit process) and placed in the hands of each science teacher. This is a valuable tool."

(Stress on outdoor activities is tied in with Youth Council in addition to school programs.)

Hendersonville--(Jr. High) This program appears to be well organized.

"The school unit is participating in a Title III environmental education program with eight school units from the western district. This program is in the development stage and will become operational this school year. The project will provide environmental education for students and staff on Forest Service property in Buncombe County."

High Point--The environmental education program has been tied to a close cooperative arrangement with an AAUW Community Involvement Committee. The suggested program and results are submitted here as thought-provoking ideas. (Appendix IV).

North Wilkesboro--(Wilkes Central High) Emphasizes use of BSCS Green Version biology course--

"Our program is mainly through the BSCS Green Version biology course including activities such as: field trips, films, speakers, and other available community resources. Emphasis is placed on the interrelationships of organisms and the effects of environmental stresses. It is designed to make students aware of internal and external factors that may upset the equilibrium of the environment."

Raleigh--Has a senior high "Technology and Ecology" elective that shows promise.

"What we are doing at the local level is difficult to answer through the questionnaire. There are several courses which are developed around an environmental approach, such as seventh grade life science and high school biology. The most recent program which might be developed around this theme is a semester offering at the senior high school level called, "Technology and Ecology." This is a new program and is being offered in all senior high schools as an elective. Preliminary organizations from the senior high schools indicate that eight sections of the program will be taught during the year with approximately 240 students enrolled. The course outline for this program was completed during the summer with a rather extensive materials list provided."

Red Springs--Planned curriculum for this year is as follows:

"As part of our innovations to the curriculum in our school system, we plan to create an environmental curriculum this year. All teachers will be involved with drawing up of units of study. All students will study some phase of the environment this year. However, when our resource units have been completed, pupils in grades 2, 4, 6, 8, 10, and 12 will be expected to study the environment in units of 2 to 4 weeks. At the primary level, we hope to develop in the pupil an awareness of his environment and how it can affect his health and happiness. Throughout our program, we stress responsibilities of all people in the community to maintain a healthy environment. Other topics which will be given special consideration will be Environmental Management Techniques, Relationships of the Environment to Our Economic System, and Environmental Control and How It Relates to Our Contemporary Society."

Washington--(P. S. Jones Jr. High) Has a mini-course approach which was also mentioned by several other schools:

"Our program is designed to include eighth and ninth graders in the same classes. The mini-course system is used. There are six (6) such courses. The first is a general introduction to ecosystems. Every student is required to take this course first. At the end of that twelve-week period, there are then two twelve-week periods left during which a student may select two of the remaining five courses and take them."

ESEA Title III project for junior high shows promise. (Appendix IX).

Greensboro--With 23 elementary and secondary schools compiled, this was the most comprehensive report sent in reply to the SDPI questionnaire. The following paragraphs summarize their programs (E-elementary, S-secondary).

(S) "It is incorporated with the biology program. Seniors spend about eight weeks and do a detailed study of population, ecology, and pollution. Sophomores work more with concepts of a more general nature."

(S) "We have a large flower garden--approximately 50' to 200' in size. The students map, plant, tend, and cultivate."

(S) "Last year several groups of eighth graders were able to participate in extra-curricular clubs, such as the Piedmont Rock and Mineral Club and the T. Gilbert Pearson Chapter of the National Audubon Society. They were able to take a field trip to Hanging Rock State Park. This field trip, conducted by Hollis J. Rogers (UNC-G) gave the students the ecology of this area and most important, this trip helped establish the concepts of the relationship between man and his environment. Materials, donated to us by the Coca Cola Company, were easy to use and gave the students an opportunity to think how they could improve their environment. Films, such as the "Gifts" narrated by Lorne Greene, were excellent means of getting the point across. A final field trip to the mountains summed up the environmental studies program."

(S) "In our program, we attempt to bring to the class all that is involved in the Ecological Crisis. Topics to be discussed: (1) Population Statistics (2) Ecology (3) Pollution. Films, for us, are the best materials for supplementing the topics mentioned above. Students participate in classroom discussions and bring in reports on environmental crisis."

(S) "We include environmental science in our regular biology classes--6 to 12 weeks for Biology 1 A - 2 A. In more depth for Biology 3 A - 4 A. Part of our faculty uses Green Version High School Biology which is ecologically-oriented. Organization of Zeta Club--in cooperation with County Agriculture Department."

(E) "Environmental education is being taught as an incidental program rather than a planned program. Teachers at all grade levels carry out units on environmental education throughout the year. Much emphasis is placed on the importance of shrubbery, flowers, trees, and beautiful school grounds. Displays are made, films and filmstrips are shown to bring out the good and the bad sides of environmental education."

(S) "Environmental education at Smith High School has grown from a minor topic in biology to a major field. The BSCS-Green, 2nd edition, used by five biology classes, has ecology as its major emphasis. The other faculty members are using different texts, but all of them are putting a great deal more emphasis on environment than has been done in previous years. The biology teachers encourage and/or require students to bring in current news articles, magazine reports, projects, etc., on ecology."

(S) "All the biology teachers agreed this year to emphasize ecology throughout the year with special emphasis to be placed on this topic during the month of November. The 16mm films available through Greensboro A-V are excellent, and we show most of them. We encourage students to make current reports (newspaper, magazine, TV, etc.). Having access to Twin Lakes provides a natural laboratory for field trips which can be made during the 55 minute class period. We go on more extensive trips when they can be arranged."

(S) "The program at Lindley Jr. High is correlated with subject areas. As materials and information are made available, we utilize it as an integral part of our teaching."

(S) "The units taught in 7th grade: Fresh Water Communities. Marine Communities. Land Communities. The units taught in 8th grade: The Land Wears Away. Sediment in the Sea. Evaluation of Landscapes."

COUNTY SCHOOL UNITS

Of the 69 county units that responded, 30 indicated they had specific environmental education programs and 39 did not. However, some of the latter covered environmental problems in a general sense.

Alamance County has a science coordinator for the county with definite plans to establish an environmental program for all the county schools.

Anson County (Bowman Sr. High) has an outdoor recreation and applied ecology program. Planning schedule is attached as a good example of an environmental approach. (Appendix V).

Avery County (Avery County High) has a program based on BSCS Green Version Guide.

Buncombe County (all six high schools) have a program based on BSCS. They offer a workshop for teachers in environmental education.

Burke County has a Title III project at Pilot Mountain Jr. High available to all county teachers, classes K-12, for in-service environmental training. Copy of Title III project attached. (Appendix VI).

Carteret County has what appears to be a viable program at East and West Carteret High Schools:

"In each of two high schools, an elective course is available to juniors and seniors who wish to conduct self-directed group studies of real-life environmental situations ('environment' defined as 'total surroundings'), getting credit for the appropriate English or social studies course and advanced biology. The learning facilitators, with a 15-to-1 student-teacher ratio, serve as an advisory and teaching team, with 2 hours per day of preparation time, and teach one regular course in their field."

The county has a Title III environmental studies project. (Appendix VII).

Caswell County has a program as a part of health and earth science classes.

"Health classes in both 8th and 9th grades include a unit on environmental health including community clean-up drives. In earth science, care of the environment is included throughout the year culminating in a unit on conservation at the end of the year, approximately 6 weeks coverage. The Vocational Agriculture Department teacher has a six-week unit on conservation of soil and water."

Cherokee County (Murphy High School and elementary school):

"At Murphy High School last school year the Agriculture Department and the Science Department with others made a nature trail for a distance of over a mile close to the school. Different groups use this trail for study. Even the local community use the trail a good bit. This project has created much interest in this school and all kinds of possibilities. Plans are to do more work on it this year such as building bridges, hand rails around steep places, etc.

"The students at Murphy Elementary School are working on the school grounds to stop erosion. School grounds have been leveled and grassed."

Davie County (all schools) has a program tied in with Soil Conservation District:

"Our program involves students in grades 5, 7, and 10. It is a joint project between the Davie Soil Conservation District and a committee of teachers. Materials and guidelines are developed by the committee for use during the month of April. Prizes are given in the essay and poster contest by the Soil Conservation District. The committee also suggests a list of resource persons for classroom visits. During the next several years, we will be involved with Stokes County in developing units of study under a Federal grant to Yadkin Valley Economic Developement District, Inc."

Winston-Salem/Forsyth County's program makes use of a Nature Science Center:

"This course attempts to convey: (1) a clear understanding that man is an inseparable part of a system composed of men, culture, and the natural environment, (2) an appreciation of the environment, both natural and manmade, (3) a fundamental knowledge of the problems confronting man and possible ways to solve them, and (4) attitudes and behavioral patterns which will foster commitment and action to overcome the environmental crisis."

Hertford County (Riverview School grades 1-3):

"The SCIS program is new in our school this year. It is being used in one section of each of the first three grades. We expect to expand next year, depending on the effectiveness and funds. The life science program for each grade has to do with the balance in nature, life cycles, and our dependence upon our environment and how we can best adapt to it. My Weekly Reader

further develops this idea in the attention given science and current events with emphasis on pollution and how we can control it. This same program is being used in one section of the first three grades at Amanda S. Cherry School."

Hoke County (High School):

"This program is designed to teach the students knowledge by observation, lecture, field trips, demonstrations, and filmstrips that will help him solve environmental problems from a relationship that will assist him in his state, local, and community government and society."

Johnston County:

"Following several weeks of classroom studies, a county-wide poster conservation contest is held. Winners in each school attend banquets given by Soil Conservation Service of Johnston County. Posters are judged and awards presented to winners."

Madison County's program makes use of a nature lodge and Environmental Education Center:

"The Environmental Education Center, with a staff of professional teachers, exists to serve the people in the Western North Carolina region. Through the development of educational programs for school children and adults, three major goals will be pursued:

1. The development of an awareness of our unique mountain environment,
2. The understanding of important ecological information,
3. The development of a mature attitude toward nature and environmental problems." (Appendix VIII).

Mitchell County:

Bowman High School:

"Teachers plan a six-week unit on environmental education. Projects and field trips are conducted in each class. The classes involved are health, biology, and science."

Deyton Elementary School:

"All year long emphasis is placed on conservation and environmental problems. For about two weeks before our big trip for 7th grades, emphasis is specifically related to the areas the experts/professionals will cover. We have a complete set of EB slides and films to use as an introduction. We have a county-wide contest on "environmental concern" as expressed in essay form...run by the agricultural agent, for all 7th grade participants."

Montgomery County:

"This course enables students to develop a knowledge, understanding, and appreciation of the relationship between forestry, wildlife, conservation, and recreation and environmental pollution control. The major units of study are soil conservation, forestry management and identification, wildlife and game management, and the recreational aspects of each. Also, occupational opportunities and requirements in these areas will be investigated."

New Hanover County:

"Consultant employed full-time with all 8th grade earth science teachers--helps them develop units on the ocean, assists with and arranges field trips--acts as director of experiences during field trips--assists in evaluation. We also have senior high oceanography program."

Northampton County:

Conway Elementary:

"The Junior Beta Club has been involved in projects to improve the environment, such as anti-litter campaigns, bulletin boards and contests of several kinds."

Jackson Elementary School:

"This program is correlated with the regular science instruction. It will last a minimum of five days. The teachers will strive to make each child aware of his environment and help him to realize that he has a vital responsibility in making his environment livable."

Orange County (High School):

"Having a deep and sincere interest in students with reference to their wise use of leisure time and care of the environment and wildlife, Mr. Tommy Leonard planned and initiated this course which is designed especially for seniors. He is acquiring instructional materials and using what is available and using local resource people to help with camping trips and field trips."

Polk County:

"There has been much activity in the way of cleanup and beautification programs. Also, there has been emphasis on field trips to mineral museums, soil and water installations, etc. On September 21, field trips are planned to see a display of lunar rocks in Asheville.

"There is a very active Governor's Beautification Committee in the county, which will be working through its education committee in the schools."

Stokes County had a Teacher Environmental Action Day on August 27, 1971. They have a proposal for funding for an environmental education program under the title, Yadkin Valley Economic Development District.

Surry County:

"This is an ESEA Title II Media Project. Films and kits have been made up on Drugs and Pollution-Conservation for use by teachers on request. Materials are housed in A-V Center and circulated county-wide. Also available to two adjoining systems. Began this year, 1971-72."

Union County:

Piedmont High:

"An environmental club is now in the planning stages. Through this organization, it is hoped that the students and adults in our school and community will become aware of the environmental problems confronting us, and as a result, will take constructive action against them."

Sun Valley High School:

"Emphasis upon ecology is stressed in all of our biology classes. Special research papers were written in some English classes. A social studies class

prepared posters throughout the school and presented a special chapel program."

Parkwood School:

"Ecology is incorporated throughout our science courses. We plan to set up feeding stations for various animals and run a chemical analysis on water, air, etc."

Union Elementary School:

"The environmental education program in Union Elementary School involves the total student body. Clean-up days and campus beautification are included to encourage pupil awareness of their environment. Teacher instruction on the importance of a livable environment is stressed in all areas."

Wilkes County's program is concerned with the development of kits:

"Three kits will be developed. These will be on levels as follows: (1) primary level; (2) middle grade level; (3) high school and adults. Included in the kits will be various types of materials dealing with the subject of environmental science. Along with the kits will be a guide listing suggested activities and procedures for use of the kits. They will be distributed from the Learning Resource Center."

SPECIAL CATEGORY

The "Supplementary Education Center" located at Salisbury, with its nature study and national science projects and activities, seems to have a terrific potential for helping to solve environmental problems in North Carolina. Abstracts of programs submitted under Title III are enclosed. (Appendix X).

SUMMARY

1. Methodist College's science and social studies courses offered to juniors and seniors appears to be a step in the right direction for college/university courses in environmental education for all teachers. Elon, Campbell, Lenoir Rhyne, Belmont Abbey, and High Point College programs are others with good potential.

2. The projected major in "Environmental Studies" by Pfeiffer and "Environmental Education for the Elementary School" by UNC-Greensboro, as well as the planned "Environmental Health" program at ECU, should produce good results.

3. The following city school programs appear to be quite promising because of progress already made and because of the varied approaches regarding level of program and/or supporting agencies relied upon:

   Hendersonville with Title III support —
   High Point with AAUW support
   Raleigh - Senior High elective
   Red Springs - Elementary level
   Washington - Mini-course idea
   Greensboro - 7th and 8th grade approach
   Salisbury Supplementary Education Center

4. The following county school units appear to have special promise:

   Anson- Senior High program
   Burke - Title III, all grades K-12
   Carteret - Title III and development of ESA's
   Cherokee - Murphy High nature trail
   Hertford - Riverview School Grades 1-3, SCIS program
   Madison - Environmental Education Center
   New Hanover - For oceanography approach
   Stokes - Yadkin Valley Economic Development District Project
   Surry - Title II Media Project
   Wilkes - Developing kits for primary, middle grade, high school, and adults

APPENDICES

State of North Carolina

A. CRAIG PHILLIPS
SUPERINTENDENT

Superintendent of Public Instruction
Raleigh 27602

JEROME H. MELTON
ASSISTANT
SUPERINTENDENT

APPENDIX I

(SAMPLE SENT TO DEANS AND CHAIRMEN
OF DEPARTMENTS OF EDUCATION)

The Division of Science Education is involved in an "Environmental Education Planning Project" funded under Title V of the Elementary and Secondary Education Act. The purpose of the project is to help us obtain information and to develop plans necessary to assist schools in the area of environmental education. To help us conduct the project, we need to know what kinds of programs you have underway and what your plans are for the future.

As a means for gathering this information, we have prepared a questionnaire for your use in responding to our request. It may be desirable to read the entire questionnaire before you begin to fill it out.

When you have completed the questionnaire, please return it to us. We will take the information you supply us and try to plan state agency services that will be of the greatest aid to schools in the state.

We appreciate very much your continuing interest in environmental education.

Sincerely,

Jerome H. Melton

JHM:WMW:rml

Enclosure

Division of Science Education
August, 1971

ENVIRONMENTAL EDUCATION QUESTIONNAIRE

1. Do you have a program or programs for prospective teachers in environmental education? _____ / _____
   Yes No

2. During what year are they offered?

   _____ Freshman, _____ Sophomore, _____ Jr., _____ Sr.,

   _____ Graduate

3. What level(s) will the teachers who take these courses be teaching?

   _____ K-3, _____ 4-6, _____ 7-9, _____ 10-12, _____ College

   (If offered for more than one level teacher, please rank in order of largest number affected.)

4. Are the courses multi-disciplinary? _____ / _____
   Yes No

   What disciplines are involved? (1) _____

   (2) _____

   (Please rank in order of emphasis given subject in courses.) (3) _____

   (4) _____

   (5) _____

5. Are the courses activity-oriented? _____ / _____ If so, briefly explain.
   Yes No

6. Are the courses field-oriented? _____ / _____
   Yes No

7. Please write a short description of the course(s) offered.

8. What state agency services do you believe would be of greatest value to you in designing future and/or implementing environmental courses for teachers at the college level?

9. Please designate a contact person for environmental education in your institution with whom we may correspond directly.

Name_____

Address_____

Phone_____

Please return to: W. Max Walser, Consultant
Division of Science Education
Room 284, Education Building
Raleigh, North Carolina 27602

State of North Carolina
Superintendent of Public Instruction
Raleigh 27602

A. CRAIG PHILLIPS
SUPERINTENDENT

JEROME H. MELTON
ASSISTANT
SUPERINTENDENT

APPENDIX II

August 31, 1971

(SAMPLE LETTER SENT TO ALL SUPERINTENDENTS)

The Division of Science Education is involved in an "Environmental Education Planning Project" funded under Title V of the Elementary and Secondary Education Act. The purpose of the project is to help us obtain information and to develop plans necessary to assist schools in the area of environmental education. To help us conduct the project, we need to know what kinds of programs you have underway and what your plans are for the future.

As a means for gathering this information, we have prepared a questionnaire for your use in responding to our request. It may be desirable to read the entire questionnaire before you begin to fill it out. You may wish to have individual principals respond to the questionnaire if you have several programs in different schools.

When you have completed the questionnaire, please return it to us. We will take the information you supply us and try to plan state agency services that will be of the greatest aid to school systems in the state.

We appreciate very much your continuing interest in environmental education.

Sincerely,

Jerome H. Melton

JHM:WMW:rml

Enclosure
cc: Directors of Instruction

Division of Science Education
August, 1971

ENVIRONMENTAL EDUCATION QUESTIONNAIRE

Name of School System _____ Telephone _____

Name of School _____ Telephone _____

Please provide information about environmental education program(s) requested in spaces provided.

1. Number of Students Involved _____

2. Number of Teachers Involved _____

   Is team teaching used? _____ / _____
   Yes No

3. What is the length of the program? _____ / _____ / _____
   Days Weeks Months

   What is the length of a period? _____ / _____
   Minutes Hours

4. Is the program multi-disciplinary? _____ / _____
   Yes No

   What disciplines are involved? (1) _____

   (Please rank in order of emphasis given subject in courses.)
   (2) _____
   (3) _____
   (4) _____
   (5) _____

5. Have environmental education curriculum materials been developed locally?

   _____ / _____
   Yes No

6. Is the program activity-oriented? _____ / _____
   Yes No

   If so, briefly explain. _____

   _____

   _____

7. Is this a federally funded project? _____ / _____
   Yes No

8. How is the program evaluated? _____

_____

_____

9. What types of media are used? _____

_____

10. Are outdoor activities included? _____ / _____
Yes No

If yes, what type? _____

_____

11. In one paragraph, please describe the program(s) in your school system.

12. What services from the Department of Public Instruction would be of most assistance in improving or initiating environmental education programs in your system/school?

13. Please designate a contact person for environmental education in your school system so that we may correspond directly with him. List name, address, and phone number of that person below.

Name _____

Address _____

Phone _____

Please return to: W. Max Walser, Consultant
Division of Science Education
Room 284, Education Building
Raleigh, N. C. 27602

Appendix III

METHODIST COLLEGE

1. The Science Department offers a semester course for juniors and seniors as an elective (Science 300 - Problems of Pollution, including Lab). The Social Studies Department offers a semester course for juniors and seniors (Social Studies 309 - Man and His Environment).
Science 300 - 4 semester hours
Social Studies 309 - 3 semester hours

2. Juniors and Seniors.

3. Any level. Teachers in the field have not taken these courses although they were offered during summer school 1971.

4. Science 300 (biology and chemistry). Social Studies 309 (sociology, political science, philosophy, religion, history, and economics).

5. and 6. Science 300 is activity-oriented by the fact that the laboratory is used. Social Studies 309 is a lecture course.

7. Science 300 is a scientific study of certain aspects of contamination of the environment including some of the causes and effects of pollution and possible corrective measures. Social Studies 309 is an inter-disciplinary study of ecological problems created by overpopulation and pollution, from the point of view of the fields of sociology, political science, philosophy, religion, history, and economics.

8. Someone from the state department might wish to discuss these courses with Mr. P. J. Crutchfield, Assistant Professor of Biology, and Mr. Bruce Pulliam, Assistant Professor of Social Studies, or the Chairman of these Areas.

9. I suggest Mr. P. J. Crutchfield, Assistant Professor of Biology, or Dr. Fred C. McDavid, Chairman of the Department of Education and Psychology, Methodist College, Fayetteville, N. C. 28301, office phone 488-7110 Ext. 259 or 267. Home phone 488-6478.

Appendix IV

HIGH POINT CITY SCHOOLS 1970-71

SUGGESTED ENVIRONMENTAL PROGRAM TO BE SPONSORED BY THE A. A. U. W.

Objective: To develop better citizens and adults with acute sensitivity toward their environment and a sense of the interaction possible between themselves and their surroundings.

We feel that this awareness should have begun during the pre-school years, but feel that certainly it should be instilled into each child as early as the primary school years and should be a continuing program.

Implementation: We believe this program should be based primarily on action projects that have practical applications and should grow out of specific studies.

We suggest that in those schools having grades 1-4 emphasis should be on study and projects having to do with the awareness of the problem of littering and on what each individual child and children working in concert can do about it.

Suggestions might involve projects having to do with planting, stream clearance, improvement of school approaches, caring for toilet facilities, attention to home environment, and a directed program for conserving reusable paper and other school supplies.

These projects may also be suitable to schools having grades 5 and 6. A more sophisticated approach will need to be employed. There might be a study of waste measurement and possible recycling with some study of comparative rates of decomposition--as with non-returnable bottles and synthetic detergents.

It is suggested that in these schools the program might well be implemented through a special committee of the student councils.

It is believed that in the junior and senior high schools a broader and more scientific approach should be taken. It might involve any aspect of the environmental problems. For example, there might be a study and involvement with sound pollution. Perhaps a particular area might be chosen for study and concentrated efforts toward improvement.

It is hoped that here the projects might be developed through science clubs or through the science departments.

We would like to see projects planned and developed through initiative in each school without any limits imposed by the A. A. U. W., and we would hope that the whole school will be involved. The work might be originated and publicized through posters, skits, role-playing, and pertinent reports.

Evaluation: It is planned for the work to be presented to the A. A. U. W. in April through art work, scrap books, short over-all resumes, or any other devices that can present the total project.

Awards are to be presented to each participating group, and newspaper recognition is planned for each project.

By September 21 - Names of a contact person from each school to be sent to Dr. Thayer so that the names may be available to A.A.U.W.

Sara S. Ratliff, Chairman
A.A.U.W., Community Involvement Committee

Appendix V

ANSON COUNTY

Bowman Senior High

OUTDOOR RECREATION AND APPLIED ECOLOGY - 7060 & 7061
1971-72
(Teaching Units Planning Sheet)

Teaching Unit No.	Teaching Unit Name	Total Hours Planned	Grading Period(s) To Be Taught
1	Introduction and Orientation	15	1st.
25	Population In Our Environment	15	1st.
2	Leadership Development	20	2nd.
11	Wildlife Population	5	2nd.
13	Harvesting Game Species	5	2nd.
3	Ecological Systems	15	3rd.
5	Land Use In Our Environment	5	3rd.
6	Water Use In Our Environment	5	3rd.
21	Air In Our Environment	5	3rd.
	First Semester Total	90	
7	Plants In Our Environment	5	4th.
12	Wildlife Management	5	4th.
26	Minerals In Our Environment	5	4th.
23	Noice In Our Environment	5	4th
20	Sewage and Waste Disposal	5	4th
22	Chemicals and Radiation In Our Environment	5	4th
10	Machinery Use In Outdoor Recreation	20	5th
9	Construction for Outdoor Recreation	10	5th
4	Outdoor First Aid	15	6th
15-16-17	Fishing, Boating, Camping	15	6th
	Second Semester Total	90	

OUTDOOR RECREATION AND APPLIED ECOLOGY - 7060 & 7061
(Planning Schedule)

	1st Grading Period	2nd Grading Period	3rd Grading Period	4th Grading Period	5th Grading Period	6th Grading Period
1st Week	Introduction and Orientation Unit #1	Leadership Development Unit #2	Ecological Systems Unit #3	Plants In Our Environment Unit #7	Machinery Use In Outdoor Recreation Unit #10	Outdoor First Aid Unit #4
2nd Week	↓	↓	↓	Wildlife Management Unit #12	↓	↓
3rd Week	↓	↓	↓	Minerals In Our Environment Unit #26	↓	↓
4th Week	Population In Our Environment Unit #25	↓	Land Use In Our Environment Unit #5	Noise In Our Environment Unit #23	↓	Fishing, Boating, Camping Unit 15-16-17
5th Week	↓	Wildlife Population Unit #11	Water Use In Our Environment Unit #6	Sewage And Waste Disposal Unit #20	Construction For Outdoor Recreation Unit #9	↓
6th Week	↓	Harvesting Game Species Unit #13	Air In Our Environment Unit #21	Chemicals And Radiation In Our Environment Unit #22	↓	↓

Appendix VI

BURKE COUNTY

Title of Project - "Environmental Ecological Education"

Project No. - 43-72-0029-0

Projected Three Year Fundings:
Obligations

1st Fiscal Year 1971-72 -	$ 89,931
2nd Fiscal Year 1972-73 -	75,553
3rd Fiscal Year 1973-74 -	50,200
Total Funding:	$215,684

Number of Pupils	Grade Levels	Ethnic	Economic Status
13,570	Grades K-12	Multi-Ethnic	Multi-Socioeconomic

Objectives:

1. To build an awareness of the need for environmental ecological education by involving school personnel (students, teachers, and administrators), community agencies (governments, industries, businesses, and clubs), and individuals in this project.
2. To determine if certain areas of the natural and social sciences can be taught more successfully in an outdoor classroom by providing learning experiences for students in the outdoors and comparing the learning results with those of students taught in the traditional classrooms of Burke County.

Procedures:

1. We propose to use the outdoor laboratory approach to reach these goals. The EEE staff will take small groups of students into the field to identify ecological problems, experiment with the facts they obtain, and hopefully, propose solutions for the problems encountered.
2. Work with schools to schedule assembly programs, field trips, displays, scientific experiments, and other activities that can assist teachers and students in building concern for the three E's - Environmental Ecological Education.

Evaluation:

Evaluation design has been developed by the EEE staff and LINC (The Learning Institute of North Carolina)

1. Tests are to be administered by the EEE staff and scored by LINC.
2. LINC will handle all statistical data and combine the results.

Dissemination Plan:

1. We plan newspaper articles to appear in two newspapers in the county and one in a nearby county.
2. Radio programs have been planned for two local stations.
3. Articles are planned for all school papers in the county.
4. Conferences and in-service workshops are planned to advise educators, school teachers, and college science majors about the project.

Appendix VII

CARTERET COUNTY

Title of Project - "School/Community Cooperative Environmental Studies Project"

Project Number - OE 71-7336

Projected Three Year Funding:

Planning Grant:	$ 1,365.20	
First Fiscal Year:	146,428.80	
Second Fiscal Year:	194,000.00	(Approx.)
Third Fiscal Year:	Unknown	
Total Funding:	$ 500,000.00	plus

Number of Pupils	Grade Levels	Ethnic	Economic Status
150	11-12	Multi-Ethnic	Multi-Socioeconomic

Objectives:

1. To provide an open classroom of self-directed study for the upperclassmen of each high school as an elective alternate to the regular curriculum.
2. To conduct experiments in the use of real-life total environments as laboratories for interdisciplinary studies in social studies, science and language arts and to evaluate closely the results.
3. To serve as a national model of school-community cooperative study, student-initiated projects and broad-spectrum environmental education.

Procedures:

1. To select 90 volunteers from each high school, and place with them a team of six teachers with expertise in the areas of ecology, language arts and social studies; credit to be given for all three subjects, (daily 3-hour time block).
2. To establish community liaison and conduct a series of student-designed investigations of environmental problems.
3. To document the studies with multi-media reports, which will include movies and printed materials produced by the students.
4. To influence the quality of instruction throughout the system (toward openness, self-directedness and field work) by planned exchanges between the project and other classrooms.

Evaluation:

The project will have a 2/3-time evaluator, who will supervise execution of a comprehensive evaluation plan included in the proposal. Evaluation will be monitored by a program auditor.

A pre-designed but flexible test schedule will utilize existing and new instruments to evaluate all components: instruction, in-service training, management, dissemination and evaluation itself.

Dissemination Plan:

1. All student investigations are being documented and compiled as a file on the county's resources. Some major studies will be highlighted for detailed case history treatment, which will provide a multi-media report suitable for presentation by involved students and teachers.
2. The usual dissemination channels will be utilized, including local mass media, state and national magazines and presentations at conferences.
3. Correspondence and visitation is being maintained with other environmental projects and coordinated through OE.

Appendix VIII

Administrative Unit: Madison County Public Schools

Title of Project: "Cooperative Environmental Education Program"

Project Number: 43-72-0020-0

Grant Number: ESEA-III-43-72-120

Funding: July 1, 1970-June 30, 1972 $100,000

Number of Pupils	Grade Levels	Ethnic	Economic Status	Type of Project	Description of Project
64,106	K-12	Multi	Multi	Innovative-Exemplary	Environmental/ Ecological

Objectives:

1. The development of an awareness of our unique mountain environment.
2. The understanding of important ecological information concerning:
   a. ecosystems
   b. natural resources
   c. pollution problems
   d. environmental decision-making
   e. cultural environmental heritage
3. The development of a constructive attitude toward nature and environmental education.

Procedures:

1. Purchase resource materials for local teachers to use
2. Develop programs for school children in environmental education
3. Examine existing curriculum materials to adapt them to environmentally-oriented instruction
4. Develop a complete interdisciplinary program for the Deer Lake Lodge facility.

Evaluation:

All procedures will be evaluated according to the behavioral objectives stated in the project proposal.

Dissemination Plan:

1. A monthly newsletter to inform schools
2. Newspaper articles, television and radio to inform the community
3. Presentations at conferences, workshops, and conventions to inform other educators.

Appendix IX

P.S. JONES JUNIOR HIGH SCHOOL
WASHINGTON CITY SCHOOLS

Title of Project - "Environmental Science Study Curriculum" (ESSC)

Project No. - 43-71-0008-0

Projected Three Year Funding:

1st Fiscal Year 1971-72 - $84,965.00
2nd Fiscal Year 1972-73 - 67,925.00
3rd Fiscal Year 1973-74 - 70,825.00

Total Funding: $223,615.00

Number of Pupils	Grade Levels	Economic Status
216 per year	Grades 8-9	Multi-Socioeconomic Status

Objectives:

1. To provide junior high school students with a basic knowledge of environmental science.
2. To equip junior high school students with the skills necessary to recognize and to solve existing and potential environmental problems through the use of factual, tested, and relevant information.
3. With a viable nucleus of informed students, to catalyze the adults of the local community into positive action toward the prevention and solution of environmental problems.
4. To make junior high school students cognizant of the interaction of social, political, and economic factors with the natural aspects of environmental science.

Procedures:

1. To establish a resource center based on the multi-media approach with materials of different degrees of difficulty.
2. To establish a curriculum of twelve (12), twelve-week mini-courses based on the inquiry approach. Students are required to take the introductory course during the first twelve weeks. They may then choose two (2) from the remaining five (5) courses for the last two twelve-week terms.
3. To involve other disciplines in facilitating and extending the program.

Evaluation:

A. Internal
   1. All unit plans within each course are subjected to on-going evaluation by both project staff and students.

B. External
   1. External evaluation is conducted by an outside agency.
   2. Evaluation design consists of pre-and post-testing to determine the overall effects of the project.
   3. Effects on the community are also measured.
   4. Various means of subjective evaluation are also employed.

Dissemination:

A. Local School Unit
   1. A monthly newsletter is circulated.
   2. Open-house programs are also utilized.

B. Local
   1. News media are used extensively.
   2. Programs are presented at various organizations' meetings by both students and project staff.

C. State
   1. A monthly newsletter is circulated to science teachers at schools in a selected target area.
   2. A quarterly evaluation report is circulated to science teachers at schools in a related target area.
   3. Conferences, professional meetings, and other similar means are also employed on this level.

Appendix X

SALISBURY CITY SCHOOLS

Title of Project - "Supplementary Education Center"

Project No. - OE 67-4017

Projected Three Year Funding:
Obligations:

1st Fiscal Year 1967-68 -	$ 30,768.00
2nd Fiscal Year 1968-69 -	198,835.00
3rd Fiscal Year 1969-70 -	86,526.00
4th Fiscal Year 1970-71 -	60,499.00
Total Funding:	$376,628.00

Number of Pupils	Grade Levels	Ethnic	Economic Status
22,000 K-12 3,000 College 90,000 Adults	K-Adults	Multi-Ethnic	Multi-Socioeconomic Status

Objectives:

1. To advance creativity in education.
2. To provide an exemplary and innovative program in nature study and natural science, local and regional history, space science, and visual fine arts.

Procedures:

1. Local and regional history was presented geographically, and in the dimension of place by direct contact and experience. (Setzer School, Chilean Ore Mill, history specialists)
2. Space science opened the wonders of the heavens and introduced the Space Age. (Planetarium, college observatory, science specialists)
3. Visual fine arts provided for first-hand viewing of works of art and for participating in their creation. (Gallery shows, traveling exhibits, reproductions, art specialists)
4. Nature study provided an educational curriculum without limits. (34-acre nature area, live animals, marine aquarium, science specialists)

Evaluation:

State and local school personnel, extensive participation, community interest and support, requests for programs by schools outside the project area, apparent evidence of change taking place in the classroom.

Findings:

1. Participation in the programs through June, 1970 - 165,925 persons.
2. Commendable evaluation by state evaluation team.
3. Since there is no art supervisor in the schools of Rowan and Davie Counties, the Center has done much to fill this void.
4. A local college has added astronomy to its curriculum; this class meets jointly in the planetarium and observatory.
5. There is a general awareness for conservation and preservation activities that has not been present before.
6. The response of teachers to the in-service workshops has shown that there is a demand for this service.
7. Visitations to local historical sites has given history the "dimension of place."

Dissemination Plan:

Printed brochures and monthly bulletins, school visitations by director and other staff members, conferences with Boards of Education, extensive newspaper coverage, radio spot announcements, Innovator's Fair Exhibit in Charlotte, 1970 North Carolina School Bulletin, slide-tape program of Center.

Progress Towards Adoption:

Progress towards adoption by local school districts:
Rowan County Commissioners - $30,000. Salisbury City Council - $5,000. School Children in project area - $2,800. Foundations - $12,625. Individuals and businesses - $11,274. TOTAL - $61,699.